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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : Attorney Docket No. DVME-1014USCON1

BOUCHER, CHARLES

Serial No. 10/058,622 : Group Art Unit: 1631

Filed: January 28, 2002 : Examiner: CHANNING MAHATAN

For: METHOD FOR EFFECTING COMPUTER IMPLEMENTED DECISION-SUPPORT IN THE SELECTION OF THE DRUG THERAPY OF PATIENTS HAVING A VIRAL DISEASE

DECLARATION OF CHARLES BOUCHER PURSUANT TO 37 C.F.R. §1.132

Assistant Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

1. I, Charles Boucher, hereby declare as follows:

2. I am the sole inventor for the above-identified application.. My detailed *curriculum vitae* is attached hereto as Exhibit A.

3. I have reviewed the specification, drawings and currently pending claims of U.S. patent application no. 10/058,622. I have also reviewed the Office Action mailed on July 29, 2003 (hereinafter "the Office Action"), the applicant's response to the Office Action, which arrived at the United States Patent and Trademark Office (hereinafter "USPTO") on November 28, 2003, the Final Rejection mailed on February 24, 2004 (hereinafter "the Final Rejection"), the applicant's response to the Final Rejection, which arrived at the USPTO on April 26, 2004, and the Advisory Action mailed on May 12, 2004 (hereinafter "the Advisory Action").

4. I am informed that claims 21-63 of the present application stand rejected under 35 U.S.C. §112, 1st paragraph, as failing to comply with the enablement requirement.

5. I am informed that the standard for determining whether the specification meets the enablement requirement was set forth in *Mineral Separation v. Hyde,* 242 U.S.261,270 (1916), which posed the question, "is the experimentation needed to practice the invention undue or unreasonable?"

6. I am also informed that the factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue" include, but are not limited to:

(A) The breadth of the claims;

(B) The nature of the invention;

(C) The state of the prior art;

(D) The level of one of ordinary skill;

(E) The level of predictability in the art;

(F) The amount of direction provided by the inventor;

(G) The existence of working examples; and

(H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure.

In re Wands, 858 F.2d 731,737,8 USPQ2d 1400, 1404 (Fed.Cir.1988) and MPEP §2164.01(a).

Claim 21

7. With regard to the breadth of claim 21, claim 21 of the present application is relatively narrow since it requires the use of a rules database wherein each rule indicates the suitability of a drug for treatment of a specific viral genotype. Moreover, the method of claim 21 displays drugs suitable for therapy in a ranking based on their suitability indication. The suitability indication is based on at least a combination of: (a) a first value indicating resistance level of the genotype for that drug, and (b) a second value indicating the confidence in the first value. Thus, to perform the method of independent

claim 21, a skilled person must be able to provide a rules database that gives a suitability indication, based on the first and second values (a)-(b).

8. With regard to the nature of the invention, the invention relates to a method for computer implemented decision support in selection of drug therapy. As such, the invention lies in an improved computer implementation of a specific type of mental process that doctors carry out on a regular basis, albeit without computer implementation. More particularly, doctors currently make selections of appropriate drug therapies. Such selections are often based on factors such as the resistance level of a particular genotype for a particular drug, as well as the degree of confidence the doctor has in the information that is relied upon for determining the resistance level of that genotype for that drug. Therefore, the nature of the invention is such that the skilled person already knows how to select a drug therapy, by the performance of a mental process, using the type of information required by claim 1 of the present application.

9. The state of the prior art is evidenced by, for example, two of the documents of record in the present application, namely, "CTSHIV: A Knowledge-Based System for the Management of HIV-infected Patients," Pazzani et al., *Proceedings: Intelligent Information Systems, IIS' 97* (CAT. No. 97TB100201), 1997, pages 7-13 (hereinafter "Pazzani et al."); and "Knowledge-Based Avoidance of Drug-Resistant HIV Mutants," Lathrop et al., *American Association of Artificial Intelligence*, 1998, pages 1071-1078 (hereinafter "Lathrop '98"). Lathrop '98 describes the CTSHIV system that is employed in the method of Pazzani et al.

10. The level of ordinary skill in the art is high. Specifically, Lathrop'98 describes an AI system (CTSHIV) that connects the scientific literature describing specific HIV drug resistances directly to the customised treatment strategy of a specific HIV patient. Rules in the CTSHIV knowledge base encode knowledge about sequence mutations in the HIV genome that have been found to result in drug resistance to the HIV virus. The rules represent knowledge about HIV drug resistance as a set of if-then rules of the form:

IF <antecedent> THEN <consequent> [weight]

The system described in Pazzani et al. uses the CTSHIV expert system that is described in Lathrop '98. Thus, from Pazzani et al. and Lathrop '98, it is clear that the skilled person already knows how to implement a rules database wherein a suitability indication is based on a value indicating resistance level of the genotype for that drug, i.e. element (a) of claim 1 of the present application.

11. Lathrop '98 also teaches that, "The weight associated with a rule is not a confidence as in many expert systems. Rather it reflects the estimated level of resistance to a particular drug." (See page 1073, last paragraph of Lathrop '98). This statement indicates that, as of 1998, there were many expert systems in existence, which employed a confidence value to determine the weight associated with a particular rule in a knowledge-based system. In my opinion, this demonstrates that, as of 1998, a skilled person was capable of implementing element (b) of claim 1 of the present application, namely, basing a suitability indication on a value indicating the confidence in the value indicating a resistance level of the genotype for that drug.

12. The level of predictability in the art of computer-implemented decision support is very high since this art involves the application of a rules database, using a computer. Thus, a skilled person can predict, from knowledge of the rules database, what the outcome of the method will be. The skilled person can also predict the effect of a change in the rules database on the outcome of the method, from knowledge of the rules database.

13. A very significant amount of direction is provided in the present application for implementation of the method of claim 1. For example, the specification discusses how the conferred resistance by substitution is derived and how a value is assigned indicative of resistance level. See page 3, line 31, to page 5, line 11, of the application as originally filed. This part of the application explains, among other things, that the information on the conferred resistance by substitutions is obtained from scientific articles and evaluations by pharmaceutical companies, which information is carefully

examined by the experts of a core-committee. In the end the core-committee assigns a value indicating the resistance level. See page 4, lines 15-18 of the application as originally filed. In my opinion, the direction given in the application on how to assign a value indicating the resistance level, is sufficient for a person skilled in the art to implement this aspect of the claimed invention since, as discussed above with respect to the state of the art, the skilled person already knows, from Pazzani et al. and Lathrop '98, how to create a rules database which assigns a value indicating resistance level.

14. Also, the specification at page 5, line 35, to page 6, line 6, sets forth an example of how to determine the confidence level. In this example, objective criteria are employed. Specifically, the confidence level may be one of three levels, namely, (1) the drug result is based on suggestive evidence, (2) the drug result is proven *in vitro*, or (3) the drug result is proven *in vivo*. In my opinion, it is straightforward for a person of ordinary skill in the art to assign a confidence level on this basis since that person need only read the experimental portion of the information in question to determine whether tests were carried out *in vivo*, *in vitro*, or otherwise. Moreover, the skilled person is already familiar with expert systems employing confidence levels as weighting factors, as discussed above with respect to Lathrop '98, and thus would have no difficulty in implementing the present method based on the application of common general knowledge and the detailed teaching of how to assign a confidence level that is provided in the present specification at page 5, line 35 to page 6, line 6.

15. In addition, the specification of the present application describes how to assign the suitability level at page 6, lines 8-26. This description is sufficient for a skilled person because the suitability level is the resistance level weighted based on a confidence value. As discussed above, Lathrop '98 makes it clear that many expert systems already existed as of 1998 wherein a first value is weighted based on a second confidence value.

16. Furthermore, the present specification extensively describes the manner of updating the rules database on page 3, line 31, to page 4, line 18, of the application as originally filed. Specifically, the rules database is updated by a core committee that periodically

reviews, on a frequent basis, the latest publications on the subject and decides which adjustments should be made to the rules, based on these latest publications.

17. The present specification contains an extensive working example at pages 7-12 and in Figures 1-3 of the present specification.

18. In my opinion, essentially no experimentation is required to implement the present invention based on the disclosure of the application as filed, taken in combination with the common general knowledge of a skilled person. As discussed above, the skilled person already knows how to assign a first resistance value from Pazzani et al. and Lathrop '98, the specification provides an objective method of determining a confidence value that can easily be carried out by a skilled person, and the skilled person already knows how to weight a first value based on a confidence value, as can be concluded from Lathrop '98 which teaches that many such expert systems were already in existence in 1998.

Claim 44

19. The method of claim 44 can be carried out by a skilled person in the same manner as discussed above with respect to claim 21, except that in the method of claim 44, the rules database must include a rule for determining the suitability of a drug for treatment of a specific viral genotype, when that drug is taken in combination with another drug.

20. In my opinion, the skilled person can implement the method of claim 44 with essentially no experimentation since the skilled person can easily implement the only further step required by claim 44, that is not present in the method of claim 21. For example, the skilled person can formulate a rule for determining the suitability of a drug for treatment of a specific viral genotype, when that drug is taken in combination with another drug in the same manner that the first value indicating resistance level is formulated in the method of claim 21, except that in this case the skilled person would refer to information relating to particular combinations of drugs to formulate the resistance value, rather than to information relating to the use of individual drugs. Thus, the skilled person would have no difficulty in implementing the method of claim

44 of the present application in view of the disclosure of the present specification and the common general knowledge of a person skilled in the art.

Claim 51

21. The method of claim 51 can be carried out by a skilled person in the same manner as discussed above with respect to claim 21, except that in the method of claim 51, the rules database must include a rule for determining the suitability of a drug for treatment of a specific viral genotype which takes into account the level of the drug in a patient.

22. In my opinion, the skilled person can implement the method of claim 51 with essentially no experimentation by including as a data input to the rules database, the level of the drug in the patient, as specified in the information relied upon for creation of the rules database. Then, when a suitability indication is desired, the skilled person may specify or determine the desired drug level so that the rules database will limit its consideration of information to only information relevant to the specified drug level. This will generate a list of drug therapies, which are based on a resistance value at a particular drug level, as required by the method of claim 51.

Claim 60

23. The method of claim 60 can be carried out by a skilled person in the same manner as discussed above with respect to claim 21, except that in the method of claim 60, the rules database must include a rule for determining the suitability of a drug for treatment of a specific viral genotype which takes into account the clade of a virus.

24. In my opinion, the skilled person can implement the method of claim 60 with essentially no experimentation by including as a data input to the rules database, the clade of the virus, as specified in the information relied upon for creation of the rules database. Then, when a suitability indication is desired, the skilled person may specify or determine the clade so that the rules database will limit its consideration of information to only information relevant to the specified clade. This will generate a list of drug therapies, which are based on a resistance value for a particular virus clade, as required by the method of claim 60.

Dependent Claims

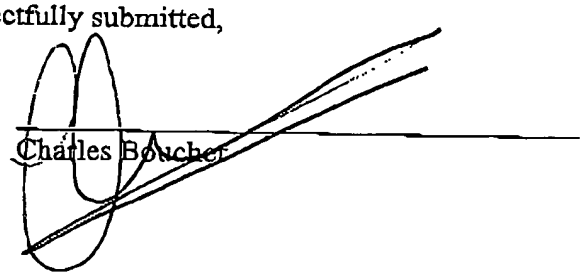
25. Some of the dependent claims of the present application require rules for different protein substitutions and/or type of drug activity. In my opinion, the skilled person can implement the methods of these dependent claims with essentially no experimentation by including as a data input to the rules database, the protein substitutions and/or type of drug activity, as specified in the information relied upon for creation of the rules database. Then, when a suitability indication is desired, the skilled person may specify the protein substitutions and/or type of drug activity so that the rules database will limit its consideration of information to only information relevant to the specified protein substitutions and/or type of drug activity. This will generate a list of drug therapies, which are based on a resistance value for a particular protein substitution and/or type of drug activity, as is required by these dependent claims.

26. Some of the dependent claims of the present application require consideration of clinical experience in determining a suitability indication. According to the specification at page 6, lines 27-31, clinical experience can mean experience provided by experts, or it can comprise the outcome of clinical studies relating the presence of substitutions at the start of therapy directly to clinical or virological outcome. In my opinion, substantially no experimentation is required to consider clinical evidence in determining a suitability indication. For example, in the case of experience provided by experts, the experts can simply weight the suitability indication based on their own clinical experience, e.g. an expert that has a significant amount of favorable clinical experience will raise the suitability indication to reflect the favorable clinical experience. In the case of using the outcome of clinical studies as the clinical experience, the incorporation of this information can be done in essentially the same way that the information relating to the resistance level is incorporated into the rules database.

27. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that the statements were made with the knowledge that willful false statements and the like

made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted,

By: 

Charles Boucher

Dated: June 18, 2004

CURRICULUM VITAE

Name	Charles Achim Bernard Boucher, MD, PhD
Place of birth	Amsterdam
Date of birth	January 16, 1958
Nationality	Dutch and Belgian
Home address	Kromme Nieuwegracht 21, 3512 HD Utrecht, the Netherlands telephone home (31-30) 234 20 10, mobile 31651203640

Education

1970-1977	Barlaeus Gymnasium, Amsterdam
1977	Gymnasium Beta
1977-1983	Study Medicine, University of Amsterdam, Faculty of Medicine
1983	Doctoraal degree
1983-1987	Medical internships
1986	Visiting fellow, School of Medicine, Yale University, USA
1987	Cum Laude Medical degree (MD)
1987-1991	Medical microbiologist training Academic Medical Centre, University of Amsterdam
1991	Board certification clinical microbiologist
1993	Ph.D.-degree University of Amsterdam, Faculty of Medicine . Thesis: "Characterisation of human immunodeficiency viruses during zidovudine treatment"

Present position and Assignments

Associate Professor in Virology, Department of Virology, Eijkman Winkler Institute, Faculty of Medicine, University Medical Center Utrecht.

Coordinator of a grant from the European Commission to form a network of 16 European countries entitled Spread, A Network to control spread of HIV drug resistance.

Scientific Advisor Virology Education BV Utrecht.

Visiting Associate Professor, University of Stanford, School of Medicine, Stanford, CA, USA

Professional and scientific experience

1983-1985	Research assistant clinical virology Department of Medical Microbiology, University of Amsterdam head: Prof. Dr J. van der Noordaa.
1989	Scholarship on behalf of the Royal Dutch Academy of Sciences. Visiting fellow, Department of Paediatrics, Division of Infectious Disease. Yale University, New Haven, Connecticut, USA, head: Prof. G Miller.
1987-1991	Specialisation in clinical microbiology, Medical Microbiology Department, Academic Medical Centre, head Prof. Dr J. van der Noordaa
1989-1993	Doctoral research: Virological effects of zidovudine treatment Medical Microbiology Department., Human Retrovirus Laboratory, head Prof. Dr J. Goudsmit, Academic Medical Centre, University of Amsterdam
1989	Visiting fellow, Wellcome Research Laboratories, Molecular Sciences Department, Beckenham, England Research: "Detection of zidovudine resistance causing mutations" head Dr G. Darby
1991-1995	Head of the Antiviral Therapy Laboratory, Medical Microbiology Department, Academic Medical Centre, head Prof. Dr J. van der Noordaa.
1995-	Associate professor in clinical Virology, Department of Virology, Eijkman-Winkler Institute for Medical Microbiology, University Medical Centre Utrecht, head Prof. Dr. J. Verhoef.
1997-2001	Co-ordinator Grant from the European Commission. European Network for Evaluation of AIDS therapy ENVA'
2001-	Visiting associate professor, School of Medicine, Stanford University

Education and teaching

1987-89	Inleiding medische microbiologie voor OK verpleegkundigen
1987-91	Training coassistenten geneeskunde in handvaardigheden en interpretatie van medisch microbiologische technieken
1992	Docent voor tweede studiejaar geneeskunde klinisch lijnonderwijs
1994	Diagnostiek en therapie van infecties, cursus voor assistenten interne geneeskunde en microbiologie, 17 december 1992. Antiretrovirale therapie
1993	Docent voor derde studiejaar geneeskunde klinisch lijnonderwijs
1993	Hoofdvakbegeleider vierde jaars student medische microbiologie
1993	Nascholingscursus HIV Infectie & AIDS. HIV: biologisch fenotype en resistentie. Stichting Nascholingscursus inwendige genees-kunde Amsterdam (NIGA), Heelsum, 4-5 maart.
1996	7th Utrecht Medical Summer School, 8-25 July, 1996: Principles and Practice of Infectious Diseases "Therapy of HIV infection; new insights"
1996-2003	Verzorging cyclus Virologie derde studiejaar geneeskunde.
1997	Vakgroep Immunologie Caput College "Therapy of HIV anno 1997."
1997	Gastcollege Rega Instituut, Katholieke Universiteit Leuven, Belgie *Anti-HIV therapy and resistance, in vitro and in vivo evaluation.*
1997	Voordracht t.b.v. Catharijnecursus, Universiteit Utrecht *Techniek en toepassingsmogelijkheden van PCR*
1997	Deelname aan collegeprogramma Speciele Farmacologie/Psychofarmacologie, 4e jaars studenten geneeskunde, 1e semester '97/'98. Rudolf Magnus Instituut voor Neurowetenschappen. Universiteit van Utrecht. *Virustatica*
1999	Lid nieuwe curriculum commissie geneeskunde, Faculteit Geneeskunde Universiteit Utrecht.
1996	Co-promotor bij de promotie van M.D. de Jong, proefschrift *Drug-failure in HIV-1 infection causes and implications for therapeutic strategies,* Universiteit van Amsterdam
1997	Lid van Promotiecommissie bij de promotie mw. drs. A.B. van 't Wout op 18 juni 1997, Universiteit van Amsterdam.
1997	Lid van Promotiecommissie bij de promotie Dr. A A. Imrie *Genotypic and phenotypic characterization of transmitted human immunodeficiency virus type-1.* University of New South Wales, Australia
1998	Lid van Promotiecommissie bij de promotie Dr B. B. Oude Essink *Reverse transcription of the HIV-1 genome.* Universiteit van Amsterdam

1998 Co-promotor bij de promotie van Dr. A.M. Been-Tiktak *Clinical and Virological Evaluation of Atevirdine and Delavirdine. Nonnucleoside Reverse Transcriptase Inhibitors.* Universiteit van Utrecht

1999 Co-promotor bij de promotie van Dr. M Nijhuis.*Fitness of HIV-1 during antiretroviral therapy.* Universiteit van Utrecht.

1999 Lid van Promotiecommissie bij de promotie van Dr. D. W. Notermans.*The 'triple study' Viral dynamics and immune reconstruction in HIV-1 infection during potent antiretroviral therapy.* Universiteit van Amsterdam.

2000 Co-promotor bij de promotie van Dr. W Keulen. *Evolution of drug-resistant HIV-1 variants.* Universiteit van Utrecht.

2001 Lid van Promotiecommissie bij de promotie van Dr. M. E. van Praag, . *Anatomical and cellular reservoirs for HIV during potent antiretroviral therapy,* Universiteit van Amsterdam

2001 Lid van examencommissie bij de promotie van Dr. K Van Vaerenbergh . *Study of the impact of HIV genotypic drug resistance testing on therapy efficacy.* Universiteit van Leuven

2001 Co-promotor bij de promotie van Dr. J.C. Stuart, *HIV and the immune system during highly active antiretroviral therapy.* Universiteit van Utrecht

2003 Lid van Promotiecommissie bij de promotie van Dr. C. Da Fonseca Pereira . *HIV-1 neuropathogenesis and antiviral research.* Universiteit van Utrecht

2003 Lid van de organizing committee "Course epidemiological principles of infectious diseases". April 22 – 25, 2003

2003 Lid van de Promotiecommissie bij de promotie van Dr. M.G.J. van Kraaij. Promotie op 7 Oktober 2003.

Organisational Activities

- Initiator and member of the Organising committee of the Annual International Workshop on HIV-Drug Resistance.

  1992 Noordwijk, the Netherlands
  1993 Noordwijk, the Netherlands
  1994 Kuai, Hawaii, USA
  1995 Sardinia, Italy
  1996 Whistler, Canada
  1997 St. Petersburg, USA
  1998 Baveno / Lake Maggiore, Italy
  1999 San Diego, USA
  2000 Barcelona Spain
  2001 Scotsdale USA
  2002 Sitges Spain
  2003 Cabo Mexico

- Initiator and member of the Organising committee of the Annual International workshop on HIV Pharmacology

  2000 Noordwijk the Netherlands
  2001 Noordwijk the netherlands
  2002 Washington, USA
  2003 Cannes France

- Organiser of the Dynamics of HIV Infection Meeting 1995 Arden Conference Centre, Harriman, New York, USA.

- International Editor of '*Timely* Topics in Medicine *SIDA*', http://www.prous.com/ttmsida; the AIDS Cyber Journal.

- Guest-editor Antiviral Therapy

- Co-chair International Consensus Symposium on Combined Antiviral Therapy and Implications for Future Therapies.
  1995 Lisbon, Portugal
  1996 Barcelona, Spain

- Session-chair at NHG Referatendag 12.5.1998.

- Joint-Reviewer of '2nd International Workshop on HIV Drug Resistance and Treatment Strategies' *International Antiviral News* July 1998, 6(7): 130-139.

- Chairman of free lectures at the Microsymposium "Opportunisme in de infectieziekten", *47ste Wetenschappelijke Vergadering VIZ*, Utrecht, October 16, 1998

- Chairman 4th International Congress on Drug Therapy in HIV Infection; plenary session 3: Virology, Resistance and Clinical Implications, Glasgow, UK, 8-12 november 1998.

- Interview Radio 1 op 12 augustus 1997. *De aidscocktail leek zo veelbelovend.*

- Coordinator van de discussie over HIV/AIDS: *Is HIV-eradication possible and will it lead to a complete recuperation of the immune system in the treated patient?* Gehouden op het AIO Seminar Course Infection & Immunity, 12-15 Januari 1998 te Utrecht.

- Roche mini-Symposium 'Aidszorg in de praktijk'. West-Indische Huis, Amsterdam, January 23, 1998. (C.A. Boucher *Virologie*)

- Workshop chairman during the IXth International Conference on AIDS, Berlin 7-11 juni 1993.

- Workshop chairman during the 4 Muncher AIDS Tage 1994. Satellitensymposium II Resistenz gegen antiretorvirale substanzen: Grundlagen, Erkennung, Klinische Konsequenzen.

- Co-chair 6th Annual International Discussion Meeting on HIV Dynamics and Evolution, Atlanta, Georgia, USA, March 26-29, 1999. Session: Dynamics and evolution of HIV antiviral resistance.

- Chairman of the II International Workshop on HIV eradication, Fundacio irsiCaixa (1999)

- Chairman of the First International Symposium on Diagnostic Technologies for HIV/AIDS and Other Life-Threatening Illnesses (1999)

- Member of the 'Comitato Scientifico' of ReAd Files, Italy. January 2000

- Chair during the NAM symposium on "Emerging Therapies for HIV Infection: new targets and sustainable strategies" in London on May 9th 2003.

- Panelmember during the session "Clinical Cases" as part of the 9th European AIDS Conference (EACS) in Warsaw, Poland. Date: October 28, 2003.

- Co-chair of the 4rd International Workshop on HIV Eradiction held on November 14th 2003 in Barcelona.

- Chair during the 1st International Workshop on HIV Persistence during Therapy held from December 10 – 12, 2003 in St. Martin. December 11th, Session IV: Primary HIV Infection, Transmission & Eradication Issues.

- Chair during the Interactive Resistance Workshop in Berlin held on March 8th 2004.

- Interview bij AVRO's 1 op de middag op over *de Vogelgriep* 2 februari 2004.

- OC member of the 5th International Workshop on Clinical Pharmacology of HIV Therapy held in Rome from April 1st until April 3rd 2004.

1990-91	Lid van bestuur Vereniging voor arts-assistenten medische microbiologie
1992-94	Lid van het dagelijks bestuur van de vakgroep medische microbiologie
1993-94	Adviserend lid Faculteitsraad Geneeskunde Universiteit van Amsterdam.
1994-95	Gekozen lid faculteitsraad Geneeskunde, Universiteit van Amsterdam.

Scientific consultant for:

Wellcome Reseach Laboratories UK/ Glaxo Group Research UK,
Janssen Pharmaceuticals Belgium,

Hoechst AG Germany, Upjohn USA,
Roche Medical Systems Alameda USA
Roche Pharmaceuticals, Swiss
Bristol-Myers Squib, USA
Boehringer Ingelheim
Abbott Diagnostics

Scientific reviewer for:

Journal of Infectious Disease
Lancet
Acta Clinica Belgica
AIDS
Antiviral Research
Antimicrobial Agents and Chemotherapy
Journal of Virology
Proceedings National Academy of Sciences
Journal of AIDS

Memberships

Advisory Board Paediatric Network on Treatment of Children with AIDS, European Community.

Advisory Board European Collaborative Study on HIV transmission, European Community

Antiviral Research Society.

American Society for Microbiology.

American Academy of Science.

New York Academy of Sciences.

Editorial board of "Antiviral Therapy".

European Group of Rapid Viral Diagnosis.

International AIDS Society.

Dutch AIDS Treating Physician's Society.

Commission Genetic Modification of the Ministry of Housing, Spatial Planning and Environment.

European Society for Paediatric Infectious Diseases.

Editorial Board member of ReAd files, Project for a newsletter on HIV drug resistance & adherence to antiretroviral therapy.

Member of the Editorial Board of Current Opinion in Anti-infective Investigational Drugs.

International Association of Physician in AIDS Care (IAPAC).

Editorial Board of Antimicrobial Agents and Chemotherapy.

Scientific Advisory Committee for the Collaborative Research Seminar on HIV Entry and Fusion Inhibition, December 2000

Editorial board HIV resistance.web.

Editorial board HIVpharmacology.com.

Member of the "Platform HIV/AIDS Onderzoek en Behandeling in ontwikkelingslanden".

I Peer reviewed publications

1. Boucher, C.A.B., Gans de, J., Oers van, R., Danner, S.A. and Goudsmit, J. Transmission of HIV and AIDS by plasmapheresis for Guillain-Barré Syndrome. *Clin.Neurol.Neurosurg.* (1988) 90,3:235-36.

2. Epstein, L.G., Boucher, C.A.B., Morrison, S.H., Connor, E.M., Oleske, J.M., Lange, J.M.A., Noordaa van der, J., Bakker, M., Dekker, J.T., Scherpbier, H., Berg van den, H., Boer, K. and Goudsmit, J. Persistent human immunodeficiency virus type 1 antigenemia in children correlates with disease progression. *Pediatrics* (1988) 82,6:919-24.

3. Goudsmit, J., Boucher, C.A.B., Meloen, R.H., Epstein, L.G., Smit, L., Hoek van der, L. and Bakker, M. Human antibody response to a strain-specific HIV-1 gp120 epitope associated with cell fusion inhibition. *AIDS* (1988) 2:157-164.

4. Pronk, J.C., Frants, R.R., Crusius, B., Eriksson, A.W., Wolf de, F., Boucher, C.A.B., Bakker, M. and Goudsmit, J. No predictive value of GC phenotypes for HIV infection and progression to AIDS. *Hum.Genet.* (1988) 80:181-182.

5. Reiss, P., Lange, J.M.A., Boucher, C.A.B., Danner, S.A. and Goudsmit, J. Resumption of HIV antigen production during continuous zidovudine treatment. *The Lancet* (1988) i:421.

6. De Wit, R., Boucher, C.A.B., Veenhof, K.H.N., Schattenkerk, J.K.M.E., Bakker, P.J.M., and Danner, S.A. Clinical and virological effects of high-dose recombinant interferon-alpha in disseminated AIDS-related kaposis sarcoma. *The Lancet* (1988)2:1214-17.

7. Boucher, C.A.B., Wolf de, F., Houweling, J.T.M., Bakker, M., Dekker, J., Roos, M.T.L., Coutinho, R.A., Noordaa van der, J. and Goudsmit, J. Antibody response to a synthetic peptide covering a LAV-1/HTLVIIIB neutralization epitope and disease progression. *AIDS* (1989) 3:71-76.

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Editor of the booklet "Het mechanisme van HIV geneesmiddelresistentie", 1998

Co-editor of *Is it possible to eradicate HIV?* Madrid 1998, Fundació irsiCaixa.

Boucher, Charles. Medicijnen helpen Afrika van de regen in de drup. (2000). Vrij Nederland, 14 oktober 2000, p. 19.

Borleffs, J.C.C., Boucher, C.A.B. Dendritische cellen als koerier voor het humaan immunodeficientievirus (HIV). Ned. Tijdschrift voor Geneeskunde, 2000, apr. 22; 144 (17).

Boucher C.A.B., B. Clotet, L. Menéndez-Arias, L. Ruiz, C. Tural, A. Van-Damme, D. Burger, J. Schapiro, R. D'Aquila, D. Richman. *Guide to management of HIV resistance and pharmacokinetics of drug therapy*. First Edition 2000. Edition coordination: Yolande Isabal, editorial TAISA, S.L.

Boucher C.A.B., E.L.M. Op de Coul. *RIVM rapport "SOA in Nederland": hfdst 8 "HIV infecties en AIDS"*, blz. 157-190. December 2000.

Boucher, C.A.B., Aids, U-blad "Het Torentje", 10 mei 2001, p. 20

Boucher C.A.B., A.M.J. Wensing, M. Mascolini. How testing for HIV resistance influences therapeutic decision making. IAPAC (May 2001) 7:3, p. 85-90.

Jan C.C. Borleffs, Charles Boucher, Wendy Chaka, Sibyl P.M. Geelen, Babette E.R. de Graeff-Meeder, Andy I.M. Hoepelman. AIDS and PAIDS: Comparison of high-income countries and sub-Saharan countries like Zimbabwe. Growing up in pediatric immunology (a tribute to Professor Dr. Ben J.M. Zegers). Utrecht 2002. 125 - 133.

Charles A.B. Boucher en Annemarie M.J. Wensing. Klinische toepassing en interpretatie van HIV resistentiebepalingen. Capita Selecta HIV/AIDS Van Zuiden communications 2002.

Charles A.B. Boucher. U Blad d.d. 27 februari 2003 (jaargang 2 nummer 24) Het Torentje. *Aidsvaccin.*

Editor of the Rapid Report of the XI International HIV Drug Resistance Workshop. Basic Principles & Clinical Implications. July 2-5, 2002 Seville, Spain.

Bionieuws nr. 8 jaargang 13 d.d. 25-04-03 Antivirale Middelen – Als vaccineren te laat is. C.A.B. Boucher

E.B. Fanoy, C.A.B. Boucher. Dieren op markten in China vormen mogelijk de bron van aan SARS gerelateerd virus. Ned Tijdschr Geneesk 2003, 8 november;147(45): 2251.

Charles A.B. Boucher. Scan van Februari 2004 (1/04). Therapietrouw blijft schild tegen resistentie – Aids-remmers voor Afrika.

Lectures

89.01L Immune Deficiency Conference (University of Wisconsin, Madison), Madison, WI, USA, 6 September 1989
HIV-1 gag gene products: their expression during natural infection and presence of an HIV-1 neutralizing epitope

90.01L Refereeravond Vakgroep Medische Microbiologie, Leiden, 2 mei 1990.
Gevoeligheidsbepaling van HIV voor AZT

90.01L Ministerio de Sanidad y Consumo, Instituto de Salud Carlos III, Madrid, Spain, 4 May 1990
AZT resistance in asymptomatic individuals

90.02L AIDS en beelddiagnostiek (Academic Medical Center), Amsterdam, the Netherlands, 30 May 1990
Virologie van AIDS

90.03L 6th International conference on AIDS, San Francisco, CA, USA, 20-24 June 1990
Drug sensitivity and biological phenotype of serial HIV isolates from zidovudine treaded asymptomatic individuals

91.01L Antigenic and genetic variability of HIV-1 in Europe (Ministerio de Sanidad y Consumo, Instituto de Salud Carlos III; University of Amsterdam, Human Retrovirus Laboratory), Madrid, Spain, 13-14 June 1991
Biological and genetic resistance analysis in individuals on AZT treatment

1.02L 7th International conference on AIDS, Florence, Italy, 16-21 June 1991
Zidovudine sensitivity of HIV during the development from the asymptomatic stage to AIDS

91.03L Pediatric European Network for treatment in HIV infected children, Paris, France, 15-16 November 1991
HIV resistance of HIV infection to antiviral drugs

91.04L Forum Huraux, Paris, France, November 1991
Clinical significance of zidovudine resistant human immunodeficiency viruses

91.05L Bristol-Myers Squibb Antiviral Academy Meeting, Vienna, Austria, 1-2 November 1991
Diagnostic and virologic tools for clinical measurement of HIV

91.06L Frontiers in HIV therapy. Fourth conference of the NIH National Cooperative Drug Discovery Groups for the Treatment of HIV Infection. J: Drug Resistance, San Dieg, California, USA, 6 November 1991
HIV-1 biological phenotype rather than zidovudine sensitivity is associated with rapid clinical progression of asymptomatic individuals during treatment

91.07L Seminar clinical research group, Boehringer Ingelheim Pharmceuticals, Inc. New York, USA, 12-13 November 1991
Development of zidovudine resistant HIV-isolates in treated intitally asymptomatic individuals

91.08L International AIDS therapy group, Washington, DC, USA, 2 December 1991
HIV-1 biological phenotype, but not zidovudine resistance pattern is associated with

rapid clinical progression of asymptomatic individuals treated with zidovudine

92.01L Workshop on viral drug resistance, Bristol-Myers Squibb Pharmaceutical Research Institute, Wallingord, US, 25 Februari 1992
Review of data from ZDV-treated patients

92.02L Molecular Pathogenesis of HIV-1. Boehringer Ingelheim Pharmaceuticals Inc./Yale University, Amenia, USA, 21-22 April 1992
Zidovudine resistance, virulence, and disease progression

92.03L Second workshop on viral resistance, Washington DC, USA, 13-15 May 1992.
Genotypic assays, PCR

92.04L Second workshop on viral resistance, Walter Reed Army Institute of Resaerch/Food and Drug Administration, Washington DC, USA, 13-15 May 1992.
National history/clinical significance: Zidovudine and didanosine (ddI)

92.05L Nevirapine Medical Conference, Boehringer Ingelheim, San Diego US, 12 June 1992
Effects of alternating therapy with zidovudine and nevirapine

92.06L 8th International conference on AIDS, Amsterdam, the Netherlands, July 19-24 1992
HIV-1 phenotype rather than high level AZT resistance is associated with rapid clinical progression of asymptomatic treated patients

92.07L 8th International conference on AIDS, Amsterdam, the Netherlands, July 19-24 1992
Evolution of zidovudine resistant HIV-1 isolates assessed by clonal analysis

92.08L Meeting on prevention of the perinatal transmission of HIV by pharmacological and immunological means, Global Programma on AIDS, WHO, Geneva, Switzerland, 22-23 October 1992
Virological determinants of perinatal HIV transmission

92.09L Act Up, New York NY, USA, 30 October 1992
Antiviral drug resistance on viral phenotype in relation to disease progression

92.10L International Congress on Drug Therapy in HIV Infection, Glasgow, UK, 9-12 November 1992
In vitro selection of 3TC resistant HIV-1 isolates

92.11L 3TC Virologists Meeting, MRC/Glaxo, 26 november 1992, London, UK
Resistance studies

92.12L Nederlandse Vereniging voor Microbiologie, sectie Virologie/RIVM; Virologendag, Bilthoven, 8 December 1992
Antivirale therapie van HIV infecties

92.13L HIV op de kinderleeftijd, the first Dutch conference on HIV-infections in children, Wilhelmina Kinderziekenhuis, Utrecht, 11 december 1992.
HIV Diagnostiek en therapie evaluatie

92.14L Diagnostiek en therapie van infecties (University of Amsterdam), Amsterdam, the Netherlands 17 December 1992
Antiretrovirale therapie

93.01L Vertical transmission intervention strategies, European collaborative study, 11-13 January 1993, London UK

Summary of the WHO intervention workshop: chemotherapy

93.02L Refereerbijeenkomst Medische Microbiologie, University of Amsterdam, 18 januari 1993
Antivirale Therapie

93.04L ZIDON Investigator's meeting, Wellcome Research Laboratories, Beckenham, UK, 29 January 1993
ZIDON pilot study - review of zidovudine sensitivity data

93.05L Workshop on primary HIV infection, NAID, NIH, Bethesda, USA, 25-26 February 1993
HIV-1 phenotypes in primary infection

93.06L Workshop on primary HIV infection, NAID, NIH, Bethesda, USA, 25-26 February 1993
HIV-1 biological phenotype in relation to ZDV resistance and disease progression

93.07L HIV: ontwikkeling van AZT-resistentie (microsymposium medische microbiologie, Academisch Ziekenhuis Nijmegen), Nijmegen, the Netherlands, 1 March 1993
Ontwikkeling van AZT resistente HIV varianten

93.08L Aspects of antiviral combination therapy in HIV management (international seminar series: the management of HIV infection), Vienna, Austria, 12-14 March 1993
Viral load, phenotype and sensitivity

93.09L Refereeravond Vakgroep Medische Microbiologie, Leiden, 24 maart 1993.
Zidovudine resistentie van HIV, fenotype en progressie

93.10L Roche Molecular Systems, diagnostics research, Alameda,CA, USA, 5 April 1993
Resistance development in vitro and in vivo to inhibitors of HIV reverse transcriptase

93.11L Sixth international conference on antiviral research, Venezia, Italy, 25-30 April 1993
Clinical implications of drug resistant HIV

93.12L Hoechst SBU Anti-infectives - Chemotherapy, Frankfurt, Germany, 18 May 1993
Development of drug resistance, in vivo and in vivo, in HIV infection

93.13L International AIDS Therapy Group Symposium, June 5, 1993.
Summary of the Second International HIV Drug Resistance Workshop, Noordwijk, the Netherlands, June 3-5

93.14L Rami-93: 7th International congress on rapid methods and automation in microbiology and immunology: Human retrovirus infections, London, UK, 12-15 September 1993
Significance of strain variation in HIV infections during treatment

93.15L 3rd Workshop on viral resistance, Gaithersburg, MD, USA, 19-22 September 1993
The appearance of resistance mutations in patients undergoing 3TC therapy

93.16L Nevirapine Investigators Meeting, Ridgefield, USA, 9 December 1993
Activity and resistance with alternating regimens

93.17L The First National Conference on Human Retroviruses and Related Infections, Washington DC, USA, 12-16 December 1993
Acquisition of 3TC resistance mutations coincides with an increase in viral load

93.18L The First National Conference on Human Retroviruses and Related Infections, Washington DC, USA, 12-16 December 1993
Viral phenotype: why bother?

93.19L Center for AIDS Research at Stanford, University of California , 22 December 1993
Acquisition of 3TC resistance mutations coincides with an increase in viral load

94.01L Post-graduate course Infectious Diseases, Grindelwald, Zwitserland, 29 januari-6 februari 1994
HIV: resistance problems

94.02L Antiviral therapy: Clinical Trial to Clinical Practice, Centro Congressi Milanofiori, Milano, Italy, 17 maart 1994
Virological studies: implications for the treatment

94.03L HIV-update: Internistendagen 1994, Veldhoven, 28 april 1994
Virus 'load' en virusresistentie en de consequentie voor behandeling

94.04L Seminaire du Centre de Recherche Public-Sante' Luxembourg 10 may 1994
Virological evaluation of HIV therapy

94.05L Hopital Rotchild and University Pierre et Marie Curie, Paris, France 2 june 1994
Resistance to antiretroviral drugs and clinical relevance

94.06L Department of medical microbiology. Academic University Hospital, Utrecht. 15 june 1994
Antiretroviral therapie en resistentie.

94.07L 4 Münchener Aids-tage 1994, München, Germany. 24 june 1994
Controversial Topics on antiretroviral resistance

94.07L Roundtable Session: Challenges and Choices in Managing HIV Disease. Pro Health Roundtable, Washington, D.C. 7 July 1994
Viral Resistance: Implications for Strategy

94.08L International Virology Committee Meeting, August 2, 1994, Kauai, Hawaii
HIV antigen and HIV RNA response during therapy with RT inhibitors

94.09L Perspectives therapeutiques au stade precoce de l'infection par le HIV; 37e Journée de l'Hôpital Claude-Bernard, vendredi 23 september 1994.
Faut-il trater les asymptomatiques à taux de lymphocytes CD4 'subnormaux'? Table Ronde.

94.10L Surrogate Markers of HIV: Strategies and Issues for Selection and Use. October 12-14, 1994, Alexandria, Virginia; member of the scientific advisory commitee for workshop IV session
Relationship between drug resistance development and viral load

94.11L First International Meeting about HIV-CMV. November 10-11, 1994, Barcelona, Spain.
Clinical significance and use for the therapeutical treatment of fenotypical studies in HIV patients.

94.12L First meeting of informal working group on prevention of mother-to-infant transmission of HIV. December 5, WHO, Geneva Switzerland.

95.05L Deutscher Kongreß für Infektions- und Tropenmedizin. Berlin, 15.-18. März 1995.

95.06L Clinical Consensus Regional Meetings World Health. 18-21 May, 1995, New York, USA

95.07L Consensus Symposium on Combined Antiviral Therapy. July 25-27, 1995, Lisbon, Portugal
Member of the Consensus Panel *Sequential Use of Combinations*

95.09L Medische informatie-avond HIV Vereniging Nederland, Amsterdam, 5 september 1995
Herinfectie

95.09L Dägna (German Association of Physicians in Private Practice treating HIV-Infected Persons) Workshop, Cologne, 9 September 1995
New diagnostic marker - esp. Virus Load

95.09L UIFI Seminar, 12 september 1995, Academisch Ziekenhuis Utrecht.
Replicatie van resistentie HIV varianten in vitro en in vivo

95.09L Antiretroviral Resistance Symposium. September 20, 1995, San Francisco, USA
Antiretroviral Drug Resistance

95.10L Comprehensive Management of HIV Disease: VI Annual HIV Speakers Forum Meeting. October 6-7, Amella Island, Florida, USA.
Treatment from a Virologist's Perspective

95.10L Vergadering Levercluster EUR, Academisch Ziekenhuis Dijkzigt, 13 oktober 1995, Rotterdam
Amtiviral Therapy & Drug Resistance

95.10L Symposium on Surrogate Markers of HIV: Strategies and Issues for Selection and Use. 16-18 October, McLean, Virginia, USA
Chairman, International Clinical Trial Groups Subcommittee

95.10L IVe Congres du Groupe de Virologie Medicale: Charge virale et nouvelles approches en virologie moleculaire, 27 Octobre, 1995, Toulouse, France
Antiretroviral resistance

95.11L Symposium "10 jaar AIDS zorg in het Academisch Ziekenhuis Nijmegen", Nijmegen
Dynamiek van de HIV-infectie: consequenties voor therapie

96.01L Workshop on Virological Markers in HIV Infection, Rome, Italy
Viral Resistance

96.01L Expert's Roundtable on Retroviral Therapy, Washington DC
Preclinical Aspects of Resistance to Protease Inhibitors

96.01L The Third Conference on Retroviruses and Opportunistic Infections, Washington DC
Antiviral Therapy: Viral Dynamics and Resistance; A Change in M184V Delays Development of Zidovudine Resistance in Patients Receiving 3TC

96.02L Workshop Virologie, SmithKline Beecham, 1-4 februari, Harlow, Engeland
Antivirale therapie bij herpes en hepatitis infecties.

96.04L Bristol-Myers Squibb Symposium "Antiretrovirale Therapie", April 14, 1996, Wiesbaden, Germany
Emerging Resistance in Antiretroviral Therapy.

96.04L Spanish Meeting on AIDS, 17 april, Santiago de Compostela, Spanje.
Drug resistence to protease inhibitors.

96.04L Academisch Ziekenhuis Groningen Refereeravond Interne Kliniek, 18 april, Groningen
Ontwikkeling van drug-resistente HIV varianten: in vitro en in de patiënten.

96.04L Bristol-Myers Squibb Antiviral Advisory Board Meeting, April 20 - 21, Vienna, Austria
Viral resistance: fidelity vs. host/parasite interaction.

96.07L XI International Conference on AIDS, July 7 - 12, Vancouver, Canada:
F. Hoffmann-La Roche Ltd Satellite Symposium, July 7
Proteinase Inhibitors

96.07L Symposium Viral Load: Impact in the evaluation of HIV therapies, July 11
Viral load - lessons learned from Delta, and their application to patient management
Speaker at the plenary session (201 and 236)

96.07L Roche Products Ltd. Taipei, Taiwan. AIDS Conference 27-28 July, 1996
Update on HIV treatment today and the role of new treatment options

96.09L Symposium "AIDS, de stand van zaken", AZU Interne Geneeskunde
Virusbelasting

96.09L II International Consensus Symposium on Combined Antiviral Therapy and Implications for Future Therapies. September 8 - 10, 1996, The Hotel Husa Palace, Barcelona, Spain.
Co-Chair
Session IV: Clinical Evaluation of Combination Therapy: HIV. *AZT & DDC - AZT & DDI, Delta Study - Virology*
Presentation abstract Rob Schuurman: *The observed increase in enzyme fidelity of the 184VAL variant is not sufficient to prevent the generation of double resistant HIV-1 viruses in vitro and in vivo.*

96.09L Bristol-Myers Squibb, 3 September 1996, Woerden
Virus Load

96.09L CHI, "Advances in Nucleic Acid Amplification & Detection" Conference, 18 - 19 September, 1996, Okura Hotel, Amsterdam, the Netherlands.
Molecular Quantification and Characterization of Drug-Resistant HIV.
Session's Chair

96.10L BHK Communications Ltd. New Drug Developmen in HIV Disease: advances in treatment strategies, 12-13 October, 1996, London, United Kingdom.
Exploiting the potential for reverse transcriptase inhibition. Non-nucleotide reverse transcriptase inhibitors.

96.11L Roche Advisory Board Meetings on HIV and CMV, 1-2 November, Birmingham, UK.

96.11L Third International Congress on Drug Therapy in HIV Infection, 3-7 November, Birmingham, United Kingdom.
Member of the Scientific Committee

Chair Scientific Programme "Antiviral Resistance (virological and immunological monitoring).

96.11L Roche Satellite Symposium "HIV Therapy - Perspectives in Profile", 14 November Sydney, Australia.
"Resistance and Cross Resistance - implications for treatment"

96.11L Roche Panhellenic Congress, 14-17 November, Athens, Greece.

96.12L Bristol-Myers Squibb Antiviral Advisory Board Meeting, 5-7 December, New York

97.01L Roche Invirase Investigators Meeting, 21 January, Arlington VA, USA
Preliminary Virology Data - NV15107

97.01L Minisymposium "AIDS-zorg in de praktijk", 31 januari 1997, Slot Zeist te Zeist.
Virologie

97.02L Third International Symposium on "Treatment of HIV and CMV infection," February 22, Barcelona, Spain.
Resistencia a los inhibidores de la proteasa. Bases para tomar decisiones terapeuticas.

97.02L Conducting Clinical Trials in HIV Disease Therapy - problems, pitfalls, potential. February 24 - 26 February, London.
Resistance to antiretroviral drugs. Resistance Interactions.

97.03L The 10th SB Kurhaus Workshop on Infectious Diseases, March 13 - 14, Kurhaus Hotel, Scheveningen.
New strategies in antiviral drug design.

97.03L Management of HIV, CMV and Hepatitis Infections, March 14 - 16, New York, USA.
Positioning of drugs in relationship to the development of cross-resistance.

97.03L HIV Population Dynamics, Variation and Drug Resistance Workshop, March 17 - 19, Edinburgh, Scotland.
Session Chairman
Evolution of 3TC resistant viruses in vitro and in vivo, role of fitness and fidelity.

97.04L Voorjaarsvergadering van de Nederlandse Vereniging voor Medische Microbiologie en de Nederlandse Vereniging voor Microbiologie, Lunteren, 22 - 23 April.
Virologische evaluatie van antiretrovirale therapie.

97.04L Bristol Myers - Squibb Seminar: The biological bases of AIDS: clinical studies, 24-26 April, Segovia, Spain.
Resistance to anti-HIV drugs.

97.05L 13th British Scandinavian Conference on Infectious Diseases, in collaboration with the infectious diseases society of the Netherlands and Flanders, Gent, Belgium, May 1-3.
HIV antiretroviral resistance.

97.05L Department du SIDA et des Retrovirus, Institut Pasteur, Paris, France, May 23.
Replication of drug-resistant HIV in vivo and in vitro.

97.05L Expertmeeting Herbesmetting, SAD-Schorerestichting, Amsterdam, 29 mei.
Virologische theorieën en bewijzen van hiv-her/superinfectie.

97.06L Murex 1997 Users Meeting, Macclesfield, UK, June 19 - 20.
The principles of HIV Drug Resistance.

98.02L International Symposium on Viracept (nelfinavir), Sevilla, February 28, 1998.
State of the art lecture *Resistance and cross-resistance with protease inhibitors.*

98.03L II Convegno Nazionale A.I.D.S. e Donna, Napels, March 26-28 1998.
Profili sulla resistenza ai farmaci antiretrovirali nei diversi comparti-menti.

98.04L Murex Ontbijtsymposium "Information for Life" , Wetenschappelijke Voorjaars-vergadering NVMM/NVvM 1998, Veldhoven, April 21-22, 1998.
Toekomst van HIV-resistentiemetingen voor de klinische praktijk

98.04L Refereeravond AZL, Leiden, April 29, 1998
Effecten van HIV-replicatie en HIV-therapie

98.06L Cursus Klinische Hepatologie van de Nederlandse Vereniging voor Hepatologie, 3-5 juni 1998, Academisch Ziekenhuis Utrecht.
Dynamiek van hepatitis C virus, lering van HIV.

98.10L Microsymposium Opportunisme in de infectieziekten, 47ste Wetenschappelijke Vergadering VIZ, Utrecht, October 16, 1998.
Diagnostiek en consequentie van resistentie bij non-HIV virus.

98.10L 47ste Wetenschappelijke Vergadering VIZ, Symposium "Opportunisme in de infectieziekten", Utrecht, October 16, 1998.
Diagnostiek en consequentie van resistentie bij non-HIV virus.

98.10L ATP DR Fax Symposium: Resistance assays in clinical practice, St Thomas' Hospital, London, UK, October 22 1998.
Search for Solutions.

98.11L Clinical Implications of HIV Drug Resistance Monitoring, 9-10 December 1998, Washington DC, USA. Session: "Focus on methods to monitor HIV drug resistance".
Phenotypic resistance assays.

99.01L Stanford University School of Medicine, Center For AIDS Research, Stanford, California, USA, January 8, 1999.
New directions in resistance testing.

99.03L Resistance Think Tank Meeting, Four Seasons Hotel, New York, USA, March 19, 1999.
Session: Clinical Strategies for Dealing with Resistance
The Future of Clinical Use of Resistance Testing

99.03 6th Annual International Discussion on HIV Dynamics and Evolution, CDC, Atlanta, Georgia, US, March 26-29, 1999.
Session: Dynamics and evolution of HIV antiviral resistance.
Evolution and modeling of Zidovudine Resistance.

99.04L V National Congress on AIDS; Satelite Symposium "Detection of transforming the therapeutic strategy. Towards an individualized therapy transforming the therapeutic strategy", Congress Palace, Santiago de Compestela, Spain, April 13-16, 1999.
Therapeutic strategies with the use of genotypic resistance methods. New and

experienced patients.

99.04L NIV, 11e Internistendagen, Kongrescentrum Koningshof, Veldhoven, The Netherlands, April 22, 23, 1999. Parallel Session, Nieuwe therapeutische mogelijkheden voor virusinfecties.
Virale resistentie: klinisch belang?

99.04L 4° Encuentro en Segovia, Virología; Vanguardia Cientifica y Practica Clinica, Segovia, Spain, 23-24 April, 1999. Mesa 3 Future trends in the management of HIV infected patients.
Fitness of drug resistant HIV in vitro and in vivo.

99.05L F. Hoffmann-La Roche Fortovase Launch Meeting, Geneva, Switzerland, May 8, 1999.
The GREAT study. Rationale for GREAT study (evidence-based decisions) plus trial details; to include DSS algorithm.

99.06L Roche Diagnostics Workshop at WorldLab '99, Florence, Italy, 9-10 June 1999. Workshop 5 "Tailoring diagnostics and treatment to create integrated healthcare solutions".
Use of genotype testing to improve HIV therapy.

99.06L Xth Symposium on HIV Infection, Visible Genetics Symposium, Toulon, France, June 17, 1999. "Standardization of HIV Drug Resistance Testing in Routine Clinical Practice".
Introduction
The European VIGILANCE Surveillance Program

99.09L 9. Deutscher Workshop der DAGNÄ, Fortbildung für Ärtzte und kooperierende Berufsgruppen zur HIV/AIDS-Problematik, Köln, Germany, September 4, 1999.
Resistenzen

99.09L Training program on new trends in Diagnostic & Treatment of HIV, Roche, Montreal, Canada, September 10-12, 1999.
Resistance -Genotyping & Phenotyping
Update on CHEESE study

99.10L IInd Workshop of European Paediatric HCV Network (APHN), Turin, Italy, 4-5 October 1999. *Virologic aspects involved in the vertical transmission of HCV and disease progression: facts and speculations*

99.10L British HIV Association Autumn Meeting 'HIV Treatment Guidelines", Royal College of Physicians, London, United Kingdom, October 9, 1999.
How to change therapy based on resistance

99.10L Programma Feedback Meeting, Utrecht, The Netherlands, 12 oktober 1999.
De klinische betekenis van resistentie

00.04L V Reunion Nacional sobre el SIDA, Pamplona, Spain, April 6th 2000.
HIV drug resistance. State of the art.

01.02L Nascholingscursus Infectieziekten, 8-10 februari 2001 te Noordwijkerhout.
HIV resistentie.

01.05L 4° Abbott voorjaarsbijeenkomst, Middelburg, The Nederlands, 12 april 2001.

Resistentie in vitro.

01.09L Symposium bij de aanbieding aan de Minister van Volksgezondheid, Welzijn en Sport, mw. Dr. E. Borst-Eilers, van het eindrapport van het ATHENA project. *Behandeling van HIV in Nederland: resultaten van drie jaar monitoring van geïnfecteerde patienten na de introductie van HAART.* 12 september 2001.

01.11L 3rd International Workshop on HIV Eradiction, Spain 16 November 2001. *Complete inhibition of viral replication, can we achieve it?*

02.02L Virology: A New Perspective Conference. Victoria Australia, 14-17 februari 2002. *How to interpret HIV drug resistance?*

02.09L HIV-Resistenz-Workshop Viruslast, CD_4-Zahl und Resistenz-Scheideweg zum Therapieoptimum. Berlin, 20 september 2002. *Update on Protease Inhibitor Resistance.*

02.10L Course in HIV resistance and pharmacology - From laboratoy to patient. Stanford University, 1 en 2 oktober 2002. *When and How to Use Resistance Tests.*

02.10L Bijeenkomst nascholing apothekers. Amsterdam, 30 oktober 2002. *Klinische toepassingen van HIV resistentie bepalingen.*

02.11L Controversies and complementarity, or what do we (really) learn from our neighbours? A joint meeting of the: Société Belge d'Infectiologie et de Microbiologie Clinique / Belgische Vereniging voor Infectiologie en Klinische Microbiologie (SBIMC/BVIKM; 19th meeting); Vereniging voor Infectieziekten (VIZ), and Nederlandse Vereniging voor Medische Microbiologie (NVMM). Antwerpen, 7 en 8 November 2002. *HIV genotyping: yes or no?*

02.11L Zesde Nationaal Congres SOA - HIV - AIDS. Amsterdam, 29 november 2002. *Debat: Mag risico op resistentieontwikkeling een reden zijn om geen grootschalige behandelprogramma's in ontwikkelingslanden op te zetten?* Georganiseerd door de Artsen zonder Grenzen.

03.03L Refereeravond Maatschap Artsen-Microbioloog Brabant. Tilburg, 12 maart 2003. *HIV-genotypering.*

03.04L Education Course for Medical Doctors (University Milano / University of Utrecht April 13-16, 2003.). *HIV and antiviral-drug resistance.* Lecture date: April 15th 2003.

03.09L Short Course on ARV Therapy (SCART), Antwerp, 1-19 September 2003. *Resistance: genotype/phenotype.* Lecture date: September 10th 2003.

03.09L De toekomst van onderzoek in en over Afrika aan de Universiteit Utrecht. *HIV resistentie in de derde wereld.* Dinsdag 30 september 2003.

03.11L The 4rd International Workshop on HIV Eradiction (Barcelona). *Complete and continuous viral inhibition, where do we stand?* Lecture date: November 14th 2003. Charles Boucher co-chaired this meeting.

03.11L Hoffman La-Roche's Physicians Forum Meeting. Workshop 4: *Optimizing the opportunity – individualizing background therapy.* Together with Jonathan Schapiro, Dan Kurizkes and Deenan Pillay. Lecture date: November 16th 2003.

03.12L Zevende Nationaal congres SOA * HIV * AIDS. Workshop HIV en AIDS. *HIV-resistentie: hoe ernstig is het?* Suzanne Jurriaans (AMC, Amsterdam). Referent: Charles Boucher. Maandag 1 december 2003

03.12L Therapeutic Drug Monitoring van anti-HIV midddelen: toepassingen en beperkingen. Minisymposium ter gelegenheid van de promotie van drs. R.E. Aarnoutse. *Het IQ concept; farmacologie ontmoet virology.* Dinsdag 2 december 2003

03.12L *Resistentie Problematiek,* presentatie gehouden op 14 december 2003 tijdens de 1e HIV/AIDS Workshop/nascholing voor Nederlandse HIV behandelaren (11 tot en met 18 december 2003, Paramaribo, Suriname).

04.02L Fuzeon Update (Roche Nederland B.V.): Workshops *'FUZEON, leren van elkaar'*, gehouden op 19 februari 2004

04.03L Paul Ehrlich, Combating Pathogens and Cancer, Symposium to Mark the 150th Anniversary of Paul Ehrlich's Birth. Presentatie gehouden op 16 maart 2004 *Development of HIV Resistance: Clinical Implications and Fitness Costs.*

04.04L *Triple nucleoside regimens and drug resistance,* presentation held on April 2nd 2004 during the 5th International Workshop on Clinical Pharmacology of HIV Therapy in Rome.